A Blueprint for Learning

The ***Blueprint for Learning*** is a companion document for the Tennessee Curriculum Standards which are located at www.tennessee.gov/education. Although the curriculum adopted by the State Board of Education in its entirety remains on the web for additional reference, this reformatted version makes the curriculum more accessible to classroom teachers.

Key features of the reformatted version are:

- All grades for each content area are provided in the same manual.
- The skills within each grade are identified as to whether they are introduced, developed, or have been mastered and are now being maintained at that level.
- The skills correlating with the state criterion referenced test (CRT) are also identified for classroom instruction.
- In the Language Arts section, the assessed skills (performance indicators) are identified not only for the state's CRT in grades 3-8 but also for the writing assessment in grades 5 and 8.
- This guide makes the planning of instruction for students with varying abilities easier to accomplish.
- Teachers can plan and work together to improve school wide student achievement through curriculum integration across content areas and grade levels.
- Teachers can identify current grade level skills as well as those needed to prepare students for the next year.

Skills are coded and identified as Introduced (I), Developing (D), State CRT and Writing Assessed (A), and Mastered and Maintained (M).

- Introduced (I) skills are new skills presented at that grade level. Even though a skill is considered introduced at a grade level, some development would also occur.
- Developing (D) skills are skills that have been introduced at a previous grade level. At this stage of development the skills are being refined and expanded.
- Assessed (A) skills are those skills that are correlated to the state performance indicators for the CRT portion of the achievement test (grades 3-8) and the writing assessment (grades 5 and 8). The identified skills are formally assessed through the CRT; however, all skills are informally assessed in the classroom.
    - For the purpose of data reporting, assessed (A) skills are grouped into categories indicating related skills and knowledge. For example, grammar, mechanics, and usage are grouped together under the grammar (G) category. Each state assessed indicator included on the Blueprint carries a legend showing that it is assessed and indicating the category in which it will be reported (e.g., Assessed/Grammar=A/G).
- Mastered and Maintained (M) indicates a skill that has been introduced, developed, and assessed. Even though a skill may be formally assessed, the development and expansion of the skill still continues.

SCIENCE
Seventh Grade

LIFE SCIENCE STANDARDS

Cell Structure and Function

The student will investigate the structure and function of plant and animal cells.

Key	Reporting Category	
D		Design and construct a hierarchy among cells, tissues, organs, and systems.
A	**CS**	Determine the relationships among cells, tissues, organs, and systems given a diagram and identify the function of organ systems.
A	**CS**	Recognize basic structures that most cells share (i.e., nucleus, cytoplasm, and cell membrane).
A	**CS**	Distinguish between plant and animal cells.
A	**CS**	Identify major cell organelles and their functions.
D		Sequence a series of diagrams depicting the stages of cell division in plant and animal cells.
A	**CS**	Sequence a series of diagrams depicting the movement of chromosomes during mitosis.
I		Design models to illustrate how materials move between cells and their environment.
A	**CS**	Predict the movement of substances through osmosis or diffusion across the cell membrane, given solutions of different concentrations.

Food Production and Energy for Life

The student will study the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.

D		Compare and contrast photosynthesis and respiration.
A	**FP**	Determine what plants need to make food.
A	**FP**	Identify photosynthesis as the food making process in plants.
A	**FP**	Identify the reactants and products of photosynthesis and respiration.
D		Relate the processes of photosynthesis and respiration to appropriate cellular organelles.
A	**FP**	Associate the processes of photosynthesis and respiration with appropriate cellular organelles.
D		Diagram and explain how oxygen and carbon dioxide are exchanged between living things and their environment.
A	**FP**	Select the structures that animals use to obtain oxygen.
A	**FP**	Classify animals according to their means of obtaining oxygen.
A	**FP**	Select the illustration that depicts the movement of oxygen and carbon dioxide between living things and their environment.
A	**FP**	Interpret a diagram depicting the oxygen-carbon dioxide cycle.

KEY
I = Introduced D = Developing A = State Assessed M = Mastered

REPORTING CATEGORY
CS = Cell Structure & Function FP = Food Production & Energy HR = Heredity & Reproduction
AC = Atmospheric Cycles SP = Structure & Properties

Note: "A" indicates the state curriculum (CRT) assessment only.
All the skills ("I"…"D"…"A"…"M") are addressed in the classroom assessment.

Heredity and Reproduction

The student will understand the basic principles of inheritance.

A	**HR**	Match a flower part with its reproductive function.
A	**HR**	Distinguish between sexual and asexual methods of reproduction.
D		Recognize that genetic information is passed from parent to offspring during reproduction.
A	**HR**	Recognize advantages and disadvantages of sexual and asexual reproduction.
A	**HR**	Recognize a variety of pollination methods and associated floral adaptations.

Earth Science Standard

Atmospheric Cycles

The student will investigate the relationships among atmospheric conditions, weather, and climate.

D		Explain how conditions, such as the amount of precipitation, temperature, and wind speed affect the water cycle.
A	**AC**	Determine how temperature affects evaporation and condensation in the atmosphere.
A	**AC**	Identify the detailed features of the water cycle given a diagram (i.e., evaporation, condensation, precipitation, run-off, and transpiration).
D		Record and analyze meteorological data to predict weather patterns.
D		Use diagrams to demonstrate how atmospheric winds and ocean currents affect weather and climate.
A	**AC**	Analyze data and make predictions about weather given a scenario.
A	**AC**	Interpret weather data using a weather map.
I		Explain the impact of catastrophic events on climate (e.g., volcanic eruption).
I		Research careers related to meteorology.

Physical Science Standard

Structure and Properties of Matter

The student will investigate the characteristic properties of matter.

D		Differentiate among elements, compounds, and mixtures.
A	**SP**	Distinguish between elements, compounds, and mixtures (i.e., $_{Na, Cl, NaCl, C, O2, CO2, H2, and H20}$).
D		Describe the particle arrangement associated with different states of matter.
A	**SP**	Compare the motion and arrangement of molecules in solids, liquids, and gases.
D		Identify the mass, volume, density, boiling point, melting point, and solubility of a given substance.
D		Measure and/or calculate the mass, volume, density, and temperature of a given substance.
A	**SP**	Determine the measurable properties of matter and appropriate metric units (i.e., weight, mass, volume, density, size (length, width, height, and temperature).
I		Obtain information about an element with the aid of a periodic table.
A	**SP**	Classify substances as elements or compounds from their symbols or formulas.

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